Receipt number AUSFCC-6054480

IN THE UNITED STATES COURT OF FEDERAL CLAIMS

CROSS MATCH TECHNOLOGIES, INC.,

Plaintiff,

v.

THE UNITED STATES OF AMERICA,

Defendant.

CASE NO. 20-308 C

COMPLAINT

Plaintiff Cross Match Technologies, Inc. ("Cross Match") brings this action against the United States of America ("United States" or "Defendant"), and alleges as follows:

NATURE OF THE ACTION

1. This is a claim pursuant to 28 U.S.C. § 1498 for the recovery of reasonable and entire compensation for the unlicensed use and infringement by the Defendant of the inventions claimed in United States Patent Numbers 7,203,344 (the "'344 patent") and 8,073,209 (the "'209 patent").

THE PARTIES

2. Plaintiff Cross Match is a Delaware corporation, with a principal place of business at 3950 RCA Boulevard, Suite 5001, Palm Beach Gardens, Florida 33410.

3. Cross Match has not had more than 500 employees at any time during the 5-year period preceding the use or manufacture of the invention described in and covered by the '344 and '209 patents.

4. The United States is the Defendant in this action based upon the actions and conduct of the United States Postal Service ("USPS"), an independent establishment of the executive branch of the United States. USPS's headquarters are located at 475 L'Enfant Plaza SW, Washington, DC 20260.

JURISDICTION

5. This Court has jurisdiction over the subject matter of this action under 28 U.S.C. §§ 1491(a) and 1498(a) because the inventions claimed in the '344 and '209 patents, which are owned by Cross Match, have been used by the Defendant without license from Cross Match or lawful right to use the same.

THE ASSERTED PATENTS

6. The '344 patent is entitled "Biometric imaging system and method," and issued on April 10, 2007 to inventors George W. McClurg, John F. Carver, Walter G. Scott, and Gregory Zyzdryn. Cross Match owns the entire right, title, and interest to the '344 patent. The '344 patent is generally directed to the automatic capture of fingerprints and determining whether each fingerprint is of an acceptable quality. A true and correct copy of the '344 patent is attached to this Complaint as Exhibit A.

7. The '209 patent is entitled "Biometric imaging system and method," and issued on December 6, 2011 to inventors George W. McClurg, John F. Carver, Walter G. Scott, and Gregory Zyzdryn. Cross Match owns the entire right, title, and interest to the '209 patent. The '209 patent is generally directed to quality classifying fingerprint images. A true and correct copy of the '209 patent is attached to this Complaint as Exhibit B.

THE CONTROVERSY

8. Founded in 1996, Cross Match is a pioneer and leading global provider in the field of biometric identity management and multi-factor authentication solutions. Cross Match's innovative products include a wide range of multimodal biometric solutions, including fingerprint and palmprint scanners, which are used to capture and process the unique physiological characteristics of individuals to verify identities. Cross Match's industry-leading scanners allow customers to reliably obtain plain impression fingerprints for up to ten fingers, provide a quality classification, or quality "score," for each fingerprint image, and reject unsuitable fingerprint images. The Federal Bureau of Investigation ("FBI") first certified Cross Match scanners for sale to the FBI as well as to other private, federal, state and local organizations in 1999.

9. Cross Match's customers use its innovative technology to perform background checks for job applicants; verify identities at borders and other checkpoints; register individuals for national identification and voter programs; prevent identity fraud in large-scale private and government programs; and control access to office buildings and secure areas. In addition to its many private customers, Cross Match's patented products are and have been used by domestic and international governments, including law enforcement and the U.S. military for deployment in combat zones, including Iraq and Afghanistan, to fulfill critical national security requirements.

10. Cross Match invests heavily in research and development and has a rich history of innovation. Cross Match and its subsidiaries have been granted over 120 patents and have many additional patent applications pending to protect various innovative proprietary systems and methods, such as its patented "auto capture" and rolled fingerprint capture capabilities, which allow for enhanced fingerprint acquisition.

11. Cross Match has previously enforced its patents, including the '344 patent, against the USPS's current supplier of infringing scanners, Suprema Inc. ("Suprema"). Suprema, a Korean company, is a repeat offender and has already been barred once from importing its infringing scanners into the United States. More specifically, in 2011, Cross Match obtained an exclusion order against Suprema from the United States International Trade Commission based on Suprema's infringement of the '344 patent. The exclusion order barred importation into the United States of multiple Suprema scanners that use and were programmed with Suprema's Software Development Kit ("SDK"). Suprema's infringement of the '344 patent was affirmed by the U.S. Court of Appeals for the Federal Circuit in *Suprema, Inc. v. Int'l Trade Comm'n*, 626 F. App'x. 273 (Fed. Cir. 2015). Exhibit C. This decision followed the Federal Circuit's en banc holding that confirmed Cross Match's right to pursue exclusion orders for Suprema's induced infringement of the '344 patent before the International Trade Commission in *Suprema, Inc. v. Int'l Trade Comm'n*, 796 F.3d 1338 (Fed. Cir. 2015) (en banc). Exhibit D.

12. Prior to issuance of the exclusion order, Suprema had attempted to enter the U.S. market for biometrics and fingerprint scanners. Suprema, through its US based distributor Mentalix Incorporated, sought and obtained a contract with the U.S. Census Bureau to provide 1,000 of Suprema's infringing fingerprint and/or palmprint scanners to Census workers. Suprema has submitted its infringing fingerprint scanners to the Federal Bureau of Investigation and has obtained a certification that would allow Suprema to sell its infringing products to the FBI as well as other private, federal, state and local organizations.

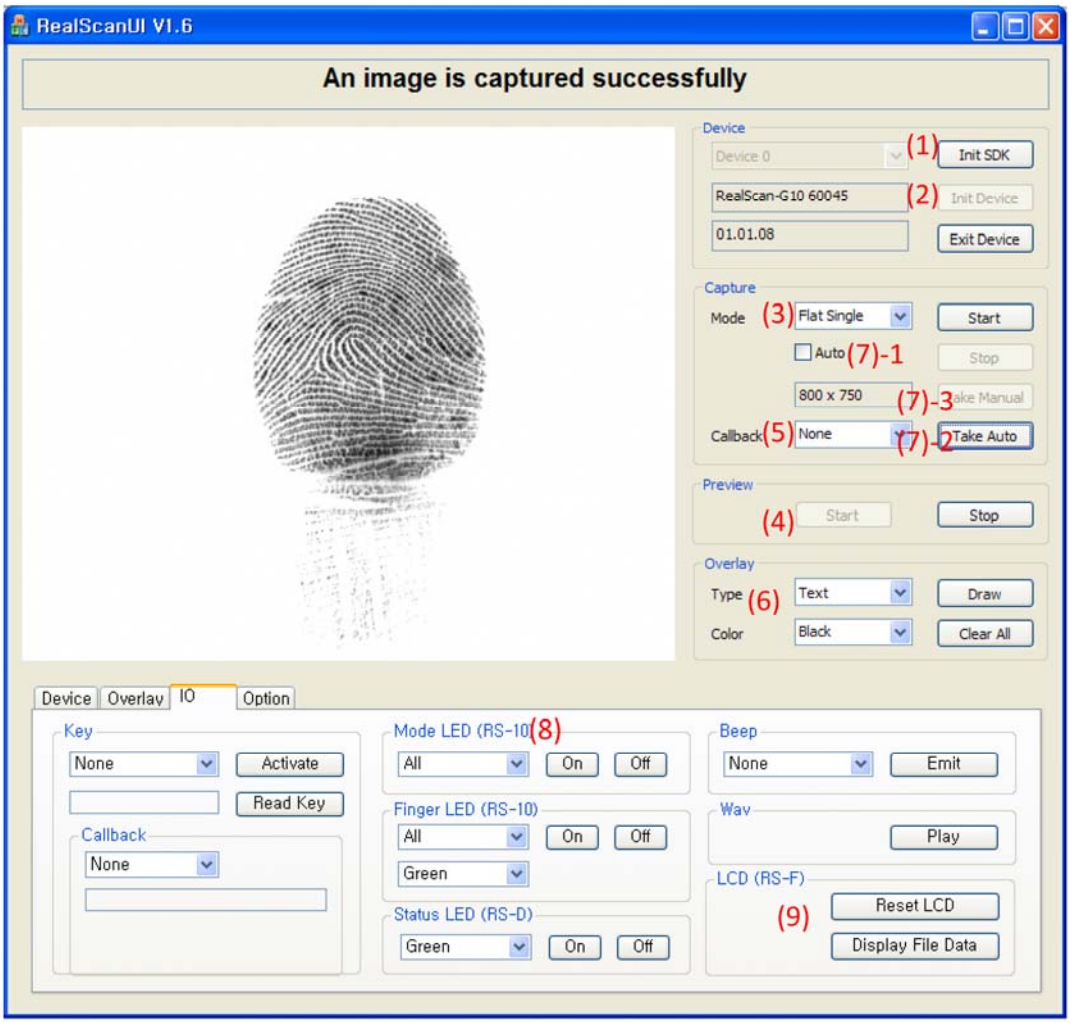
13. Suprema is at it again. Unable to compete by developing its own scanning technology Suprema has once again taken Cross Match's patented technologies without

permission and are now participating, directly or indirectly, in bidding for contracts with the Defendant.

14. On information and belief, in 2011, Suprema introduced its RealScan-G10 Scanner for single and ten-print capture of fingerprints. The RealScan-G10 Scanner operates using an SDK that enables features including the auto capture technology that infringe the subject matter claimed in the '344 and '209 patents. *See* Exhibit E at 2 ("Auto capture of flats and slaps by sensing finger placement on the prism); Exhibit F at 11, 53-54 (RealScan Basic SDK Reference Manual Rev. 1.8.5 (2016)); *See also* Suprema Enrollment Scanners RealScan SDK, https://www.suprema-id.com/en/contents/detail.php?code=020201 (last visited March 18, 2020) (describing the "auto capture" feature that "provides automated detection, position check, angle check and image quality check in real time," and "helps users to acquire fingerprint images with pre-defined quality.").

15. On information and belief, the SDK used in Suprema's RealScan-G10 Scanner is the same or substantially the same as the SDK used in Suprema's scanners that were found to infringe claim 19 of the '344 patent by the United States International Trade Commission.

16. On information and belief, SDK manuals for Suprema's scanners show that the software is compatible with the RealScan G-10. The SDK software includes auto-capture technology:



See Exhibit F at 18 (showing the auto-capture selection option at (7)-1).

A. USPS LAUNCHES PILOT PROGRAM FOR FBI'S IDENTITY HISTORY SUMMARY CHECK APPLICATIONS

17. On information and belief, in October 2017, the USPS expressed its intent to conduct a test of the biometric capture of fingerprints for the Federal Bureau of Investigation's Identity History Summary Check (IdHSC) application ("IdHSC Pilot Program"). The initial tests took place in two Post Offices in Washington DC in February 2018.

18. The testing program included Standard Work Instructions from the FBI that directed postal workers to use fingerprint scanners with "Auto Capture" technology.

19. On February 1, 2019, the USPS expanded the IdHSC Pilot Program to include testing at an additional 26 locations across the United States.

B. USPS USES INFRINGING SUPREMA SCANNERS AND PUBLISHES SOLICITATION NO. 1B-20-A-0008

20. On February 4, 2020, the USPS published Solicitation No. 1B-20-A-0008 (the "Solicitation") seeking proposals for an indefinite delivery/indefinite quantity contract for products and services related to Enterprise Biometric Management Solutions for a base period between June 1, 2020 and May 30, 2022, with three follow-on two-year options periods though May 30, 2028.

21. The Solicitation included a Statement of Objectives, which stated that the USPS and the U.S. Postal Inspection Service (USPIS) had successfully deployed the IdHSC Pilot biometric system for fingerprint collection and transmission and are seeking to expand that system to a greater number of USPS retail locations and human resource cites. Exhibit G at 4. The USPS explained that it would use the enterprise-level biometric system to generate revenue and to collect employee and contractor fingerprints to support pre-employment background investigations. *Id.*

22. The Statement of Objectives revealed that the USPS had already deployed Suprema RealScan-G10 fingerprint scanners in connection with its employee background process as well as the IdHSC Pilot Program, and stated that any software must support the Suprema RealScan G10 fingerprint scanners:

> **Implementation:** The Supplier shall design and develop biometric collection kits and provide the biometric collection software that satisfy or exceed all technical requirements in the Technical Requirements Document. In addition to supporting a Supplier-recommended fingerprint scanner, the biometric collection software shall support the currently deployed Suprema RealScan G10 fingerprint scanners. The Supplier shall describe the biometric collection software architecture and shall describe how the biometric collection software design satisfies all requirements in the Technical Requirements Document.

Exhibit G at 17. It confirmed that the USPS is currently using the infringing Suprema RealScan G10 scanner:

> **Transition Support:** USPS currently has LiveScan systems deployed consisting of Suprema RealScan G10 Fingerprint scanners and standard USPS provided laptops with a light USPS provided image as part of the overall collection station solution. **The Supplier's software shall be compatible** with these systems until USPS transitions to the new Supplier's solution. USPS provided laptops and Suprema RealScan G10 Fingerprint scanners are not required components for the new Supplier's solution.

Exhibit G at 19.

23. The Solicitation included a section on technical requirements that requires offerors to make representations on the technical capabilities of their systems in a Technical Requirements Matrix. The Technical Requirement Matrix ranks features of the scanning software by importance. Features ranked "critical" are required to meet the USPS's business needs. Features ranked as "highly desired" and "desired" are helpful or should be included, but are not required.

24. The Technical Requirements Matrix ranked as "critical" that offerors' technology include "Automated Fingerprint Scanner Detection Utilization," such that "biometric collection software shall automatically operate the detected biometric collection hardware to perform biometric collections such as fingerprint collections." It ranked as "critical" requirements that the

offerors' technology have "Scan Rejection due to Low Quality Information," that requires the software to "request the operator recollected the rejected fingerprint," and "Scan Rejection due to Smearing or Shifting," such that the "biometric collection software shall automatically detect smeared or shifted fingerprint images and prompt the operator to re-collect the rejected fingerprint image."

C. USPS IGNORES NOTICE OF USE OF INFRINGING SUPREMA SCANNERS

25. The Solicitation permitted prospective offerors to submit written questions to the USPS regarding the Solicitation by February 14, 2020. In its answers, the USPS admitted that it had deployed over 500 Suprema scanners, stating "[t]here are currently close to 500 USPS location[s] using the Suprema RealScan G10 devices," and that "[t]he scanners were selected to be used as part of the pilot."

26. Cross Match submitted questions regarding the USPS's statements in the Solicitation that it had been using the Suprema RealScan G10 fingerprint scanners. Cross Match asked:

> Paragraph 1.2.3 of the Statement of Objectives currently requires that the biometric collection software to be acquired also support "the currently deployed Suprema RealScan G10 fingerprint scanners." The technology in these Suprema scanners infringe on a patent held by Cross Match [a wholly owned subsidiary of HID Global], as determined by the U.S. International Trade Commission ("ITC"). Specifically, on October 24, 2011, the ITC determined that Suprema's RealScan G10 scanners, among other Suprema scanners, infringe Claim 19 of Cross Match's U.S. Patent No. 7,203,344, and on September 14, 2015, the U.S. Court of Appeals for the Federal Circuit affirmed the ITC's determination. What steps will USPS take to ensure that offerors are aware of this infringement and the consequences of proposing solutions that infringe Cross Match's patent?

The USPS responded that "[t]his is a legal matter and not within the scope of this Q&A."

27. Cross Match asked if the USPS would "take steps to ensure that that offerors do not further infringe Cross Match's patent by offering Suprema scanners as part of their solution," and "take steps to ensure that offerors do not further infringe Cross Match's patent by supporting the

already-deployed Suprema scanners." The USPS responded to both questions stating that "[t]his is a legal matter and not within the scope of this Q&A."

CLAIMS FOR RELIEF

28. Cross Match has not obtained any discovery about Defendant's infringement. Nor has the Court construed the meaning of any claims or terms in the asserted patents. The allegations provided below are exemplary. In providing these allegations, Cross Match does not convey or imply any particular claim constructions or the precise scope of the claims. Cross Match will require review of Suprema's source code during the course of discovery. Cross Match's claim construction contentions regarding the meaning and scope of the claim terms will be provided under the Court's scheduling order and local rules.

29. The accused products include, but are not limited to, Suprema's RealScan-G10 Scanners and the standard kit of software referenced as the "Real Scan Basic SDK," (collectively, the "Accused Products").

COUNT I: UNLICENSED USE OF THE '344 PATENT BY THE DEFENDANT

30. Cross Match incorporates the above paragraphs 1-29 by reference as if fully set forth herein.

31. On information and belief, Defendant, at least through the USPS's continued use of the Accused Products as part of the IdHSC Pilot Program, has used without a license or other lawful right one or more of the methods and systems for biometric scanning claimed by the '344 patent. Unlawful uses of the '344 patent by the Defendant include using the Accused Products to generate revenue by offering biometric collection and submission services for multiple destination agencies, such as the FBI, to customers at USPS, and using the biometric system to collect

fingerprints from potential USPS or USPIS employees and contractors for pre-employment background investigations.

32. On information and belief, the USPS uses the Accused Products in approximately 500 USPS locations.

33. On information and belief, the Accused Products use the same or substantially the same auto capture functionality as the SDK that the Federal Circuit confirmed infringed claim 19 of the '344 patent.

34. On information and belief, the USPS uses the Accused Products to perform a "method for capturing and processing a fingerprint image" that comprises "scanning one or more fingers" placed on a platen of a scanner. The RealScan-G10 Manual shows how multiple and single fingers can be placed on the platen of a scanner:

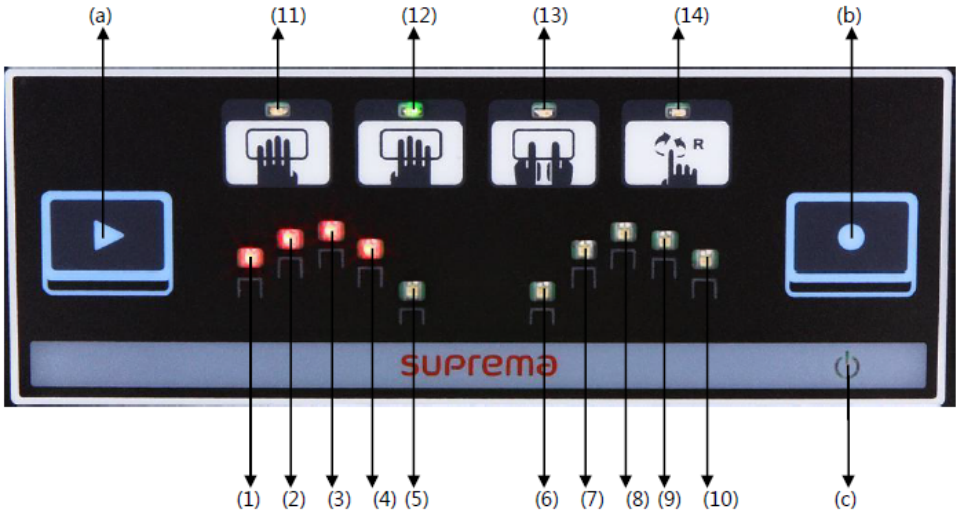
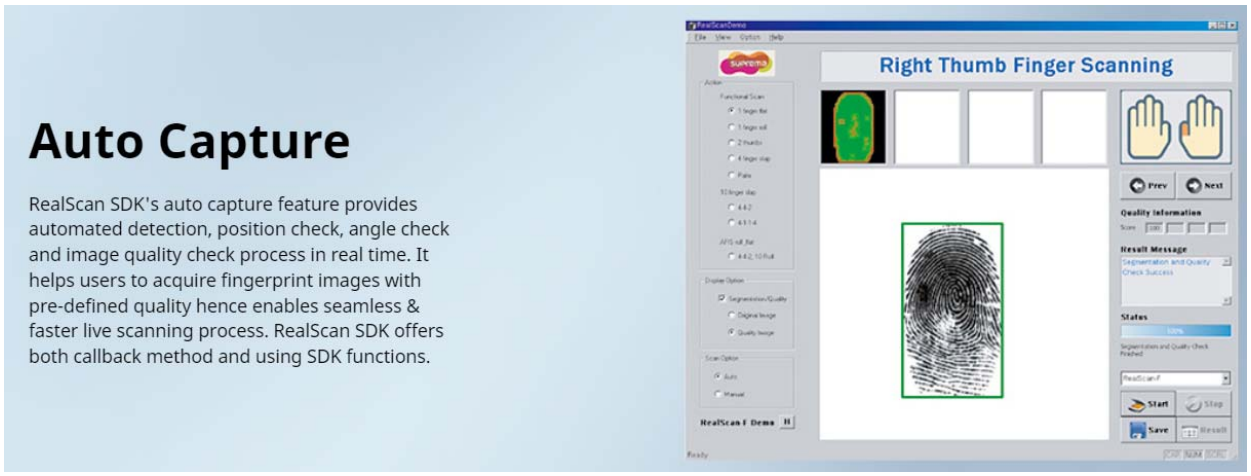
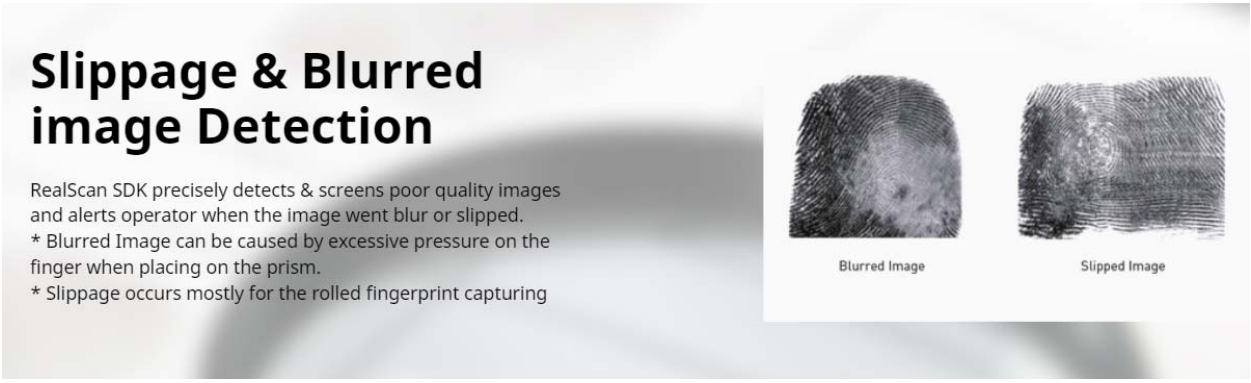


Exhibit H at 7 (RS-G10 Manual).

35. On information and belief, the Accused Products "captur[e] data representing a corresponding fingerprint image." As advertised by Suprema, the Accused Products' capture data representing a corresponding fingerprint image using an "auto capture feature" that "provides

automated detection, position check, angle check and image quality check process in real time . . . to acquire fingerprint images with predefined quality," including capturing data corresponding to fingerprint images that are blurred or slipped:





See Suprema Enrollment Scanners RealScan SDK https://www.suprema-id.com/en/contents/detail.php?code=020201 (last visited Mar. 18, 2020); *See* Exhibit F at 53-54 (showing auto capture functionality), 59-86 (describing capturing data representing fingerprint images).

36. On information and belief, the Accused Products use an optical system with a sensor and software that "filter[s] the fingerprint images" and processes the prints, as evidenced by the SDK and resulting print images obtained from the device. For example, the Accused Products use processing software to specify a level of background noise to remove:

RealScan Basic SDK Reference Manual

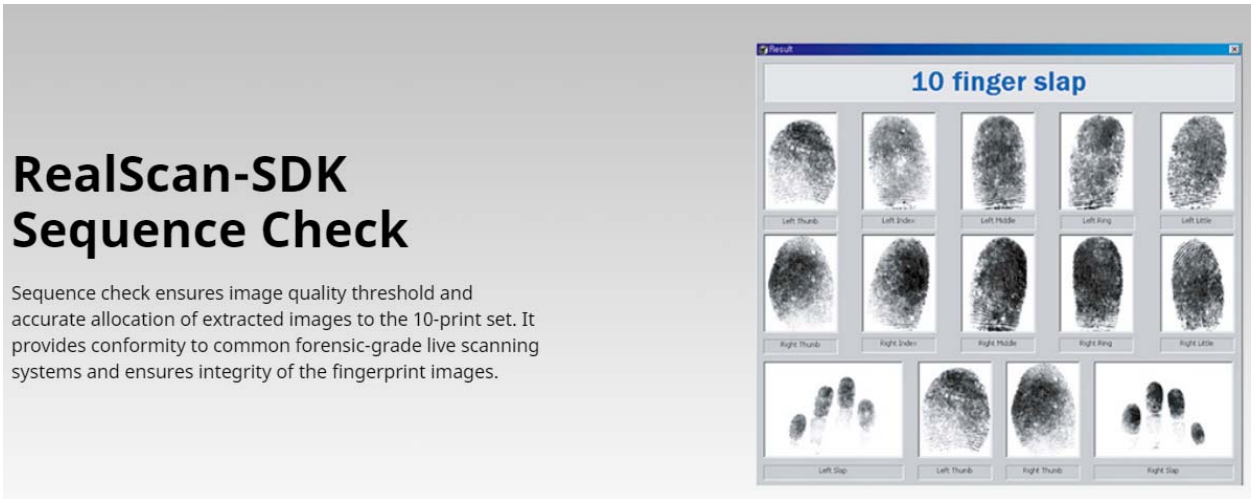
3.4. Capture API

Both RealScan-10 and RealScan-G10 can capture four kinds of images – rolled single finger, flat single finger, two flat fingers, and four flat fingers. RealScan-D supports three modes except four flat fingers. To capture an image of a specific type, you have to configure the mode first. And you can configure other options such as automatic capture sensitivity and rolling profile. You can also register callback functions which will be called when the specified event is occurred.

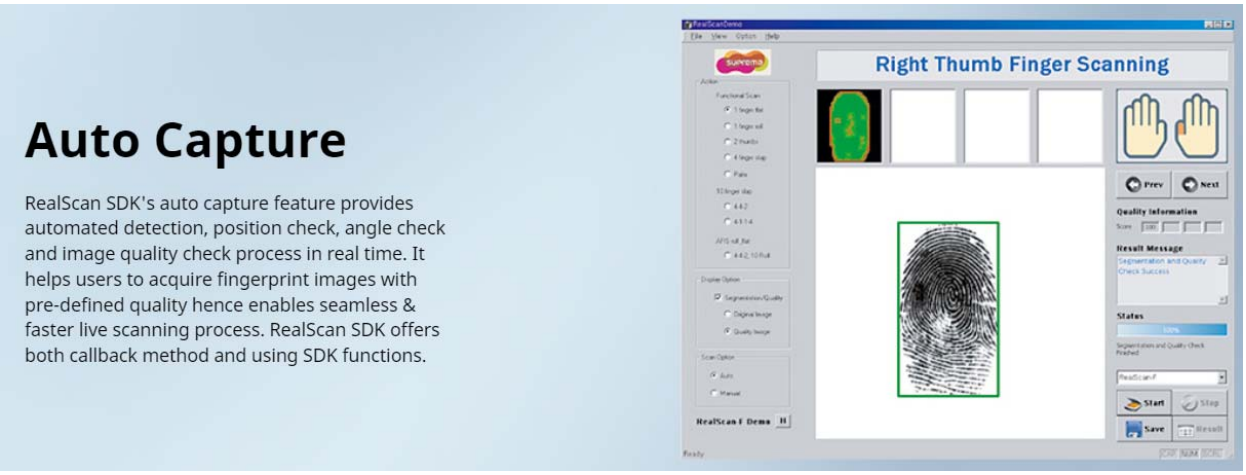
The SDK also provides several functions for enhancing the quality of the images. These functions can be grouped into two categories – background noise reduction and contrast enhancement. By making use of these functions carefully, you will be able to get higher quality images from RealScan devices.

See Exhibit F at 32.

37. On information and belief the Accused Products use processing techniques to "binariz[e] the filtered fingerprint image" and "detect[] a fingerprint area based on a concentration of black pixels in the binarized fingerprints image," as evidenced by the clean images that are shown in the resulting print images obtained from the device.

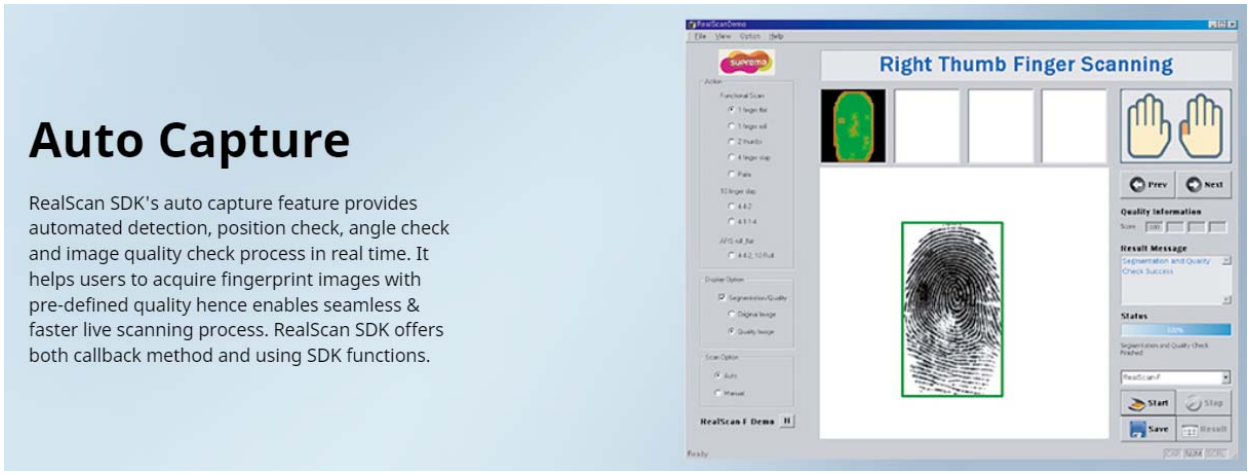


See Suprema Enrollment Scanners RealScan SDK https://www.suprema-id.com/en/contents/detail.php?code=020201 (last visited Mar. 18, 2020).



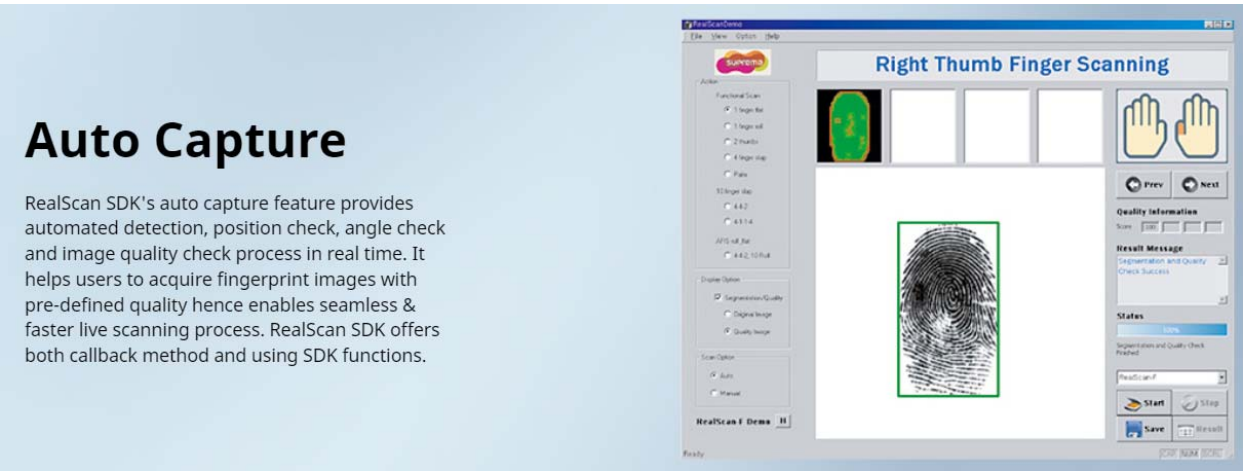
See Suprema Enrollment Scanners RealScan SDK https://www.suprema-id.com/en/contents/detail.php?code=020201 (last visited Mar. 18, 2020).

38. On information and belief, the Accused Products "detect a fingerprint shape based on an arrangement of the concentrated black pixels in an oval-like shape in the binarized fingerprint image," as evidenced by the resulting print images obtained by the device showing the detection of the fingerprint shape based on the arrangement of concentrated black pixels in an oval-like shape in the image.



See Suprema Enrollment Scanners RealScan SDK https://www.suprema-id.com/en/contents/detail.php?code=020201 (last visited Mar. 18, 2020).

39. The Accused Products also "determin[e] whether the detected fingerprint area and shape are of an acceptable quality." As advertised, the Accused Products ensure image quality of the fingerprint based on a real-time "image quality check process," which includes at least the fingerprint area and shape:



See Suprema Enrollment Scanners RealScan SDK https://www.suprema-id.com/en/contents/detail.php?code=020201 (last visited Mar. 18, 2020).

40. In addition, on information and belief, the Accused Products perform these functions through the implementation of various functions called from the SDK. That the SDK supports these functions is apparent based on the SDK's return codes that trigger errors when functions related to, e.g., segmentation and print detection (e.g., RS_ERR_CAPTURE_NOT ENOUGH_FINGERS), contrast and pixel concentration (e.g., RS_ERR_CAPTURE_TOO WEAK_PRINT) and area and shape (e.g., RS_ERR_CAPTURE_TOOSMALL_FINGERS AREA) cannot be performed, as noted below:

RS_ERR_CAPTURE_NOTENOUGH_FINGERS	-223	Capture failed by timeout because of not enough segment of fingerprints for given capture mode
RS_ERR_CAPTURE_TOOSMALL_FINGERSAREA	-224	Capture failed by timeout because of too small area of fingerprints for given capture mode
RS_ERR_CAPTURE_TOOWEAK_PRINT	-225	Capture failed by timeout because of too weak contrast of fingerprints

Exhibit F at 21.

41. On information and belief, the Accused Products also process the normal fingerprint into an image of light and dark pixels to determine the fingerprint quality, with lighter pixels indicating the higher quality, and showing the detection of fingerprint shape:

- Display Option

Normal Fingerprint

Check Fingerprint Quality

① Normal(Original Image) : Displays the original fingerprint.

② Quality check (Quality Image) : Displays the quality of the scanned fingerprint. Lighter Areas indicate higher quality.

Exhibit H at 15.

42. Defendant's unlawful use of the '344 patent through its use of the Accused Products in Postal Offices throughout the United States has and will continue to damage Cross Match's business.

43. Cross Match's effort to identify all of the additional unlicensed uses of the '344 patent is ongoing and will be completed after a reasonable opportunity for discovery in this case. Cross Match's effort to quantify the extent of damages is ongoing and will be completed after a reasonable opportunity for discovery in this case.

44. Cross Match is entitled to reasonable and entire compensation for the Defendant's unlicensed use of the inventions claimed in the '344 patent in violation of Cross Match's patent rights.

COUNT II: UNLICENSED USE OF THE '209 PATENT BY THE DEFENDANT

45. Cross Match incorporates the above paragraphs 1-44 by reference as if fully set forth herein.

46. On information and belief, Defendant, at least through the USPS's continued use of the Accused Products as part of the IdHSC Pilot Program, has used without a license or other lawful right one or more of the methods and systems for biometric scanning claimed by the '209 patent. Unlawful uses of the '209 patent by the Defendant include using the Accused Products to generate revenue by offering biometric collection and submission services for multiple destination agencies, such as the FBI, to customers at USPS, and using the biometric system to collect fingerprints from potential USPS or USPIS employees and contractors for pre-employment background investigations.

47. On information and belief, the USPS uses the Accused Products in approximately 500 USPS locations.

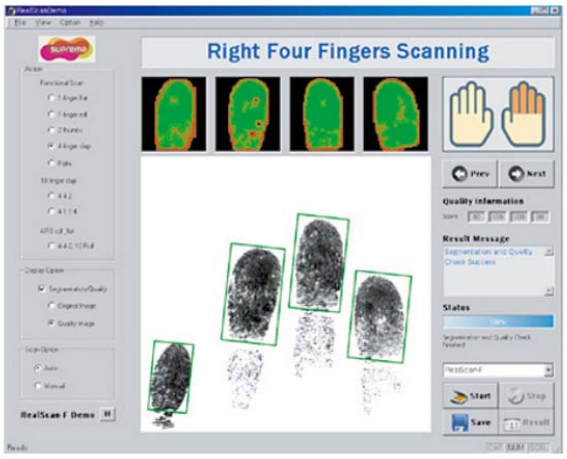
48. On information and belief, the USPS uses the Accused Products to perform at least Claim 1 of the '209 patent by "generating, using a processing device, data representing a combined image of fingerprints of fingers scanned substantially simultaneously." For example, the RealScan-G10 allows for scanning fingers substantially simultaneously. As the G10 manual explains:

(1) Fingerprint Scan Mode – Total of 8 scanning methods are available.
- 1 finger Flat : Scans single flats.
- 1 finger Roll : Scans single rolls.
- 2 thumbs : Scans both thumbs at the same time.
- 4 finger Slap : Scans four finger slaps.
- 4-4-2 : Scans four finger slaps and two thumbs as the following sequence.
  * left four fingers → right four fingers → two thumbs
- 4-1-1-4 : Scans four finger slaps and two thumbs as the following sequence.
  * left four fingers → left thumb → right thumb → right four fingers
- 2-2-2-2-2 : Scans two finger flats. Total of 10 fingers will be scanned.
- 4-4-2, 10 Roll : Scans four finger slaps, two thumbs, and rolls for all ten fingers.
- Repeated actions : When it is being checked, the same action selected would be repeated until pressing the "Stop" button.

Exhibit H at 14. The two-finger and four-finger slap scans show data generated representing a "combined image of fingerprints of fingers scanned substantially simultaneously."

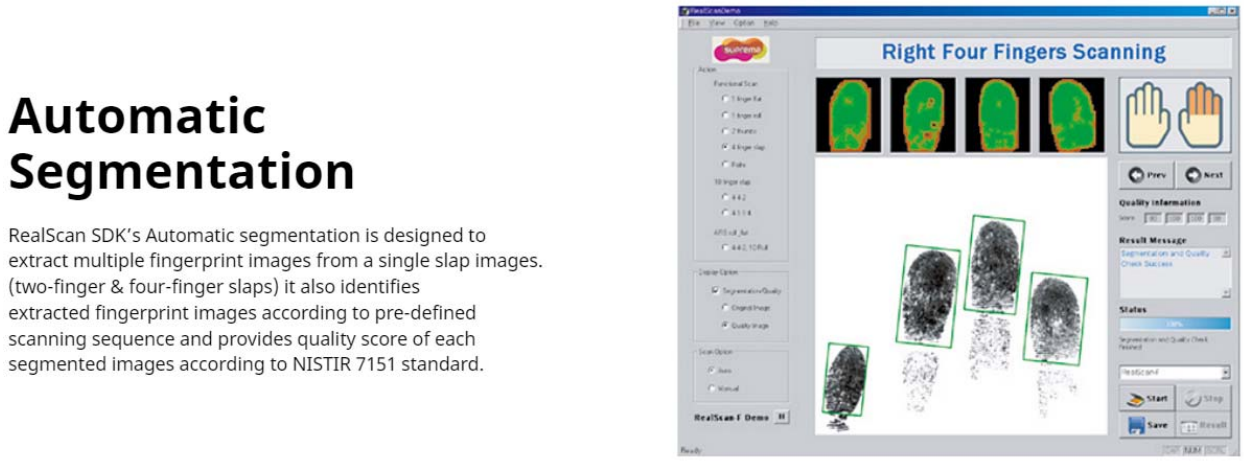
Automatic Segmentation

RealScan SDK's Automatic segmentation is designed to extract multiple fingerprint images from a single slap images. (two-finger & four-finger slaps) it also identifies extracted fingerprint images according to pre-defined scanning sequence and provides quality score of each segmented images according to NISTIR 7151 standard.



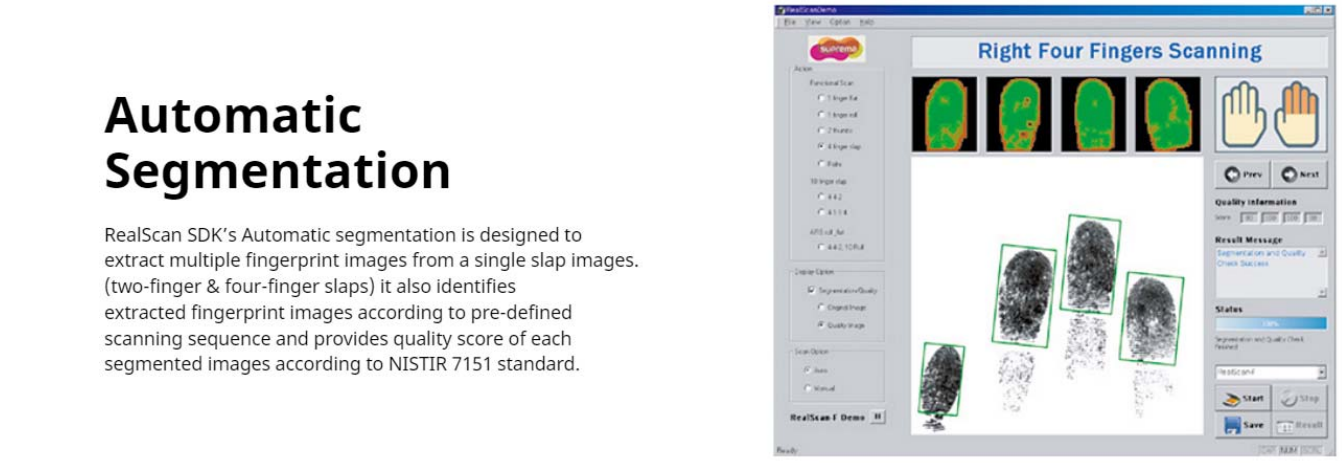
See Suprema Enrollment Scanners RealScan SDK https://www.suprema-id.com/en/contents/detail.php?code=020201(last visited Mar. 18, 2020).

49. On information and belief, the Accused Products "determin[e], using the processing device, individual fingerprint areas and shapes in the combined image." As shown below, the individual fingerprint areas and shapes in the combined image are determined:



See Suprema Enrollment Scanners RealScan SDK https://www.suprema-id.com/en/contents/detail.php?code=020201 (last visited Mar. 18, 2020); *See* Exhibit F at 19 ("After finishing of scanning all fingers according to the selected mode, the all scanned fingerprint images and their segmented results can be checked by pressing 'Result' button.").

50. On information and belief, the Accused Products "separat[e], using the processing device, the combined image into individual fingerprint images having the fingerprint areas and shapes." As shown below, the individual fingerprint images having the fingerprint areas and shapes in the combined image are separated:



See Suprema Enrollment Scanners RealScan SDK https://www.suprema-id.com/en/contents/detail.php?code=020201 (last visited Mar. 18, 2020).

51. On information and belief, the Accused Products "quality classif[y], using the processing device, the separated individual fingerprint images into at least one of acceptable, possibly acceptable, and unacceptable." The SDK provides a value for each finger type once segmented and returns a success code when an image is captured and segmented successfully:

The **fingerType** will be one of the followings;

Finger Type	**Value**
RS_FGP_UNKNOWN	0
RS_FGP_RIGHT_THUMB	1
RS_FGP_RIGHT_INDEX	2
RS_FGP_RIGHT_MIDDLE	3
RS_FGP_RIGHT_RING	4
RS_FGP_RIGHT_LITTLE	5
RS_FGP_LEFT_THUMB	6
RS_FGP_LEFT_INDEX	7
RS_FGP_LEFT_MIDDLE	8
RS_FGP_LEFT_RING	9
RS_FGP_LEFT_LITTLE	10

nCropImageData

The segmented images of a custom size user wants will be saved into memory buffers. These buffers are allocated by the DLL and you have to free them using **RS_FreeImageData** later.

fingerImageWidth

The width of the segmented images user wants.

fingerImageHeight

The height of the segmented images user wants.

Error Codes

RS_SUCCESS	An image is captured and segmented successfully.

Exhibit F at 67; *See id.* at 64-65; *See* Suprema Enrollment Scanners RealScan SDK https://www.suprema-id.com/en/contents/detail.php?code=020201(last visited Mar. 18, 2020) (noting that the SDK provides a "quality score of each segmented image"). If the image is unacceptable, the SDK returns error codes rejecting the fingerprint image, including but not limited to:

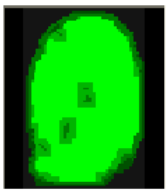
RS_ERR_CAPTURE_TIMEOUT	Cannot capture an image within the specified timeout period.
RS_ERR_ROLL_PART_LIFT	A part of the rolling finger is lifted.
RS_ERR_ROLL_DIRTY	The sensor surface is dirty, or more than one finger is detected.
RS_ERR_ROLL_TOO_FAST	Rolling speed is too fast.
RS_ERR_ROLL_SHIFTED	The finger is heavily shifted or rotated.
RS_ERR_ROLL_DRY	The finger could not be recognized correctly because of bad image contrast or smeared finger patterns
RS_ERR_ROLL_WRONG_DIR	The rolling does not confirm to the specified direction.
RS_ERR_ROLL_TOO_SHORT	Rolling time is too short.
RS_ERR_CANNOT_SEGMENT	Cannot segment the captured image.
RS_ERR_SEGMENT_FEWER_FINGER	The captured image has fewer fingers than expected.
RS_ERR_SEGMENT_WRONG_HAND	Left hand is captured for right hand, or vice versa.

Exhibit F at 65, 68.

52. On information and belief, the Accused Products process the normal fingerprint into an image of light and dark pixels to determine the fingerprint quality and output an indication of a result of the quality classification, with lighter pixels indicating the higher quality:

- Display Option

Normal Fingerprint



Check Fingerprint Quality

① Normal(Original Image) : Displays the original fingerprint.

② Quality check (Quality Image) : Displays the quality of the scanned fingerprint. Lighter Areas indicate higher quality.

Exhibit H at 15.

53. Defendant's unlawful use of the '209 patent through its use of the Accused Products in Postal Offices throughout the United States has and will continue to damage Cross Match's business.

54. Cross Match's effort to identify all of the additional unlicensed uses of the '209 patent is ongoing and will be completed after a reasonable opportunity for discovery in this case. Cross Match's effort to quantify the extent of damages is ongoing and will be completed after a reasonable opportunity for discovery in this case.

55. Cross Match is entitled to reasonable and entire compensation for the Defendant's unlicensed use of the inventions claimed in the '209 patent in violation of Cross Match's patent rights.

PRAYER FOR RELIEF

WHEREFORE, Cross Match respectfully requests that this Court award to Cross Match:

A. Reasonable and entire compensation for the unlicensed (or otherwise unlawful) use of the inventions claimed in the '344 patent and the '209 patent by or for the Defendant, in an amount to be determined;

B. Cross Match's reasonable fees for expert witnesses and attorneys, plus its costs;

C. Pre-judgment interest (or "delay compensation") and post-judgment interest;

D. Entry of a judgment that the Defendant, through USPS, used the inventions claimed in the '344 patent and '209 patent without license or authorization by Cross Match; and

E. Such other and further relief as the Court deems just and proper.

Dated: March 18, 2020

Respectfully submitted,

/s/ Maximilian A. Grant

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